

What Does the Future Hold for Cloud Computing?

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While companies have been relying on hosted software and third-party tools for decades, it has been roughly six years since clouds entered the enterprise IT psyche. Here are some insights into the opportunities and limitations of service in the cloud, as well as what the future brings for cloud computing.

What types of tools typically exist in "the cloud" today?

Today the cloud is not just an option when it comes to selecting software applications and IT tools — it's the default option. Applications like NetSuite were the beginning of true multi-tenant cloud infrastructure, moving beyond simple third-party hosting and passing along economies of scale to customers by pooling computing resources. Now, many organizations have cloud tools for such business applications as CRM, SFA, ERP, PSA, HR, payroll, ecommerce, PLM and design. They use cloud tools for office productivity solutions such as collaborative document management, word processing, email and video-conferencing. On the IT side, cloud-based software development tools are increasingly in use, while organizations are downsizing costly data center servers and backup systems. Even phone systems have moved to the cloud.

In the six years since "the cloud" truly came to be, how has the space evolved?

As the cloud has matured, a few trends have combined to drive adoption. First is Internet speed — response time is the primary driver of customer satisfaction with the user experience, so cloud-based applications benefit greatly by the increases in

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bandwidth. A second trend is the standardization of customer expectations around privacy and security. Customers now can trust and verify that well-capitalized cloud providers are using the latest technology for data protection, data redundancy, disaster recovery, intrusion testing and secure commerce. A third trend that has driven the space is mobile. Accessing cloud applications no longer requires a computer, or even a browser. A user with a smartphone who can access the shared infrastructure of a cloud provider over the cellular phone service receives a user experience optimized for each device. Historically, the mobile user was someone on a PC outside of your physical building, and it was an exception. Now, for many cloud services, mobile is the primary use case. Lastly, consumer expectations have pressured business applications and end-users expect their applications to be as user-friendly and accessible as online shopping and banking.

When it comes to cloud-enabled service, precisely what types of tools are most commonly offered? What purpose do these solutions serve and how do they enhance the customer experience?

In just several years, cloud solutions have enabled leading-edge companies to dramatically enhance the customer experience. For instance, the best cloud CRM systems give call center reps a unified, real-time view of customer interactions across all channels — web, email, in-store, catalog and call center. CSRs are equipped to respond to a customer inquiry promptly and intelligently to improve first-call resolution, as well as make informed cross-sell offers. A good cloud application also gives CSRs a real-time view into inventory availability, so that a rep can inform a customer that a desired product out of stock at one location is available in a nearby town.

On the B2B side, cloud mobility gives field sales and service reps both data access and transactional capabilities over any device. A rep at a customer meeting has up-to-date information on the account, can check inventory on demand and place an order on the spot, speeding fulfillment and improving satisfaction. Professional services firms, and creative digital and marketing agencies, use cloud solutions to track project progress, optimize personnel assignments to a job, monitor costs vs. expenses and more, all of which contributes to better customer service and satisfaction. And the cloud underpins emerging commerce systems. A unified cloud solution can deliver a consistent, relevant experience across all digital and physical touchpoints and enable the buy anywhere, return anywhere ideal — exactly the omnichannel experience that connected shoppers value and reward.

Of course, all of this is theoretically possible with on-premise applications. The beauty of the cloud is its mobility, real-time capabilities and allowing user organizations to avoid the high cost and time penalty of cumbersome in-house servers and software, while eliminating typical application silos that can impede effective service.

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What opportunities does service in the cloud bring to companies and their customer relationships?

Big dividends await those companies leveraging the cloud to keep up with soaring customer demand for a seamless anywhere, anytime brand experience relevant to their history and interests. No one in the millennial generation buys CDs, they stream music from the cloud. They don't rent DVDs, they use Netflix. They want their content to look good on a 43-inch LCD panel, a tablet, a phone, a browser and a device to be named later. Any company that technology wants to build customer loyalty and lifetime value needs to embrace the cloud and embrace that end user.

One example is the in-store service experience. "Showrooming" customers who research competing prices and products over their smartphones inside a store can be won over by a store associate with a mobile device that taps the cloud. On the spot, that associate can provide service in line with the customer's loyalty club status, recommend related products from a cloud-based catalog, check inventory and "save the sale." A mobile point-of-sale system linked to cloud financials lets the associate conduct checkout on the store floor, sparing the shopper a wait in line. The reward? Some 86% of customers "very satisfied" with customer service are likely to purchase again from the same merchant, a Temkin Group survey found.[1] For manufacturers, these trends are even more important as they are now front and center to consumers rather than just designing and delivering products to retail.

What limitations may service in the cloud present?

Mobile CRM, SFA and field service applications designed for a smartphone or tablet may not offer the full range of functionality that a user has when accessing the cloud system over a PC. Those limitations, however, are gradually diminishing and also exist in mobile applications that link to an on-premise system. Some European countries have privacy rules requiring that data not leave their borders. Such regulations will evolve over time but one must always be conscious of the data and privacy regulations in which the company is doing business.

What does the future hold for cloud computing?

As the Internet becomes more ubiquitous — and it has a long way to go to be truly ubiquitous — the cloud will become the standard for all applications. Companies are increasingly deploying new applications with a cloud-first mentality. IT departments are happy to be moving away from server maintenance and backups and transforming themselves into providing value-added services. Additionally, we are seeing a convergence of B2C and B2B technologies with NetSuite's ecommerce platform, matching online shopping to inventories and warehouse management in real time, all in one system. Most business users still have powerful laptops with word-processing and spreadsheet applications, even local hosting of emails. All of that will be cloud-based in the future, freeing our devices to be lighter, but data to

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be everywhere, in standardized formats that enable us to easily consume and interact. The cloud is also transforming manufacturing, allowing for faster cycle times and increased communications across all the different elements required to produce a product. Ultimately all of this is resulting in better products for a cheaper price.

Are there any end-user companies leading the way in terms of cloud computing and service?

As cloud service applications displace fragmented in-house systems, we see an abundance of end-user organizations improving their service levels. For instance, Hanover Direct, a 102-year-old merchant of bedding and home furnishings, has transformed its business from an old-school mail order sales to modern multi-channel retailer across ecommerce, call center and mail channels atop a cloud CRM and ERP solution. By consolidating disparate data in a single cloud repository, Hanover Direct has given 140 call center agents and other personnel a single 360-degree view of customer activity that improves service levels and ability to respond to issues while positioning Hanover Direct to execute marketing campaigns targeted to customer interests.

CMP Corporation, a family-owned manufacturer of compressors for refrigeration units and heating-ventilation-air-conditioning, has dramatically improved customer service delivery by stepping up its online game with a new ecommerce site, based on the SuiteCommerce cloud-software from NetSuite. The new portal supports self-service ordering of customized compressors as well as more than 1,900 individual replacement parts, minimizing time for ordering and cash reconciliation for both CMP and customers, while freeing up customer service representatives.

Headland Machinery, a supplier of metalworking machinery and services in Australia, has dramatically improved service delivery by its field technicians with a cloud-based application on Apple iPads that supplies real-time visibility into service jobs to streamline work on nearly 2,500 projects a year, while mobile billing with electronic signature capabilities enables 85% of invoicing to be done in the field, speeding cash flow and avoiding the expense of a full-time staffer to manage invoicing.

Do you have anything else you'd like to add?

The cloud is undoubtedly the platform of the future. We will continue to see a world where devices will evolve, business needs will evolve, and new technologies will give us new expectations of success. Vendors of old-style client-server technology are already dinosaurs, and will be extinct very soon. The cloud of 2024 will undoubtedly be far more advanced than the cloud of today, in ways we have not yet imagined. But the companies that embrace the cloud today are aligned with their customers, and well-positioned for continued success.

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[1] Temkin Group, "Customer Service Drives Sales," blog post, October 7, 2012.

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